



- e. If the starter turned, check for a loose or damaged starter cable. If the cable is good, the starter relay (**Figure 13**) is faulty. Replace the starter relay and retest.
7. Test the following items as described in Chapter Nine:
 - a. Neutral/reverse switch.
 - b. Ignition switch.
 - c. Diode.
8. Perform the starter relay switch voltage test as described in *Starter Relay Switch* in Chapter Nine. Note the following:
 - a. If the voltmeter shows battery voltage, continue with Step 9.
 - b. If there was no voltage reading, check the ignition switch and starter switch as described in Chapter Nine. If both switches are good, check the continuity of the yellow/red wire between the starter switch and the starter relay switch.
9. Perform the starter relay switch continuity test as described in *Starter Relay Switch* in Chapter Nine. Note the following:
 - a. If the meter reading is correct, continue with Step 10.
 - b. If the meter reading is incorrect, check for an open circuit in the yellow/red and light green/red wires. Check the wire ends for loose or damaged connectors.
10. If the starting system problem was not found after performing these steps in order, recheck the wiring system for dirty or loose-fitting terminals or damaged wires; clean and repair as required.
11. Make sure all connectors disconnected during this procedure are free of corrosion and reconnected properly.

Starter Turns Slowly

If the starter turns slowly and all engine components and systems are normal, perform the following:

1. Test the battery as described in Chapter Three.
2. Check for the following:
 - a. Loose or corroded battery terminals.
 - b. Loose or corroded battery ground cable.
 - c. Loose starter cable.
3. Remove, disassemble and bench test the starter as described in *Starter* in Chapter Nine.
4. Check the starter for binding during operation. Disassemble the starter and check the armature shaft for bending or damage. Also, check the starter clutch as described in Chapter Five.

Starter Turns but the Engine Does Not

If the starter turns but the engine does not, perform the following:

1. Check for a damaged starter clutch (Chapter Five).
2. Check for damaged starter reduction gears (Chapter Five).

CHARGING SYSTEM

The charging system consists of the battery, alternator and a voltage regulator/rectifier. A 30-amp main fuse protects the circuit.

A malfunction in the charging system generally causes the battery to remain undercharged.

Battery Discharging

1. Check all of the connections. Make sure they are tight and free of corrosion.
2. Perform the *Charging System Current Draw Test* as described in Chapter Nine. Note the following:
 - a. On FE and TE models, if the current draw exceeds 1.0 mA, perform Step 3. If the current draw is 1.0 mA or less, perform Step 4.
 - b. On FM and TM models (no digital combination meter), if the current draw exceeds 0.1 mA, perform Step 3. If the current draw is 0.1 mA or less, perform Step 4.
 - c. On FM and TM models (with digital combination meter), if the current draw exceeds 1.0

- mA, perform Step 3. If the current draw is 1.0 mA or less, perform Step 4.
3. Disconnect the black regulator/rectifier connector, then repeat the *Charging System Current Draw Test*. Note the following:
 - a. If the test results are incorrect, the ignition switch may be faulty or the wiring harness is shorted; test the ignition switch as described in Chapter Nine.
 - b. If the test readings are correct, replace the regulator/rectifier unit and retest.
 4. Perform the *Charging Voltage Test* in Chapter Nine. Note the following:
 - a. If the test readings are correct, perform Step 5.
 - b. If the test readings are incorrect, go to Step 6.
 5. Test the battery with a battery tester and note the following:

NOTE

If a battery tester is not accessible, remove the battery and take it to a dealership for testing.

- a. If the test readings are correct, check for an open circuit in the wiring harness and for dirty or loose-fitting terminals; clean and repair as required.
 - b. If the test readings are incorrect, the battery is faulty or electrical components are overloading the charging system.
6. Test the battery charging lead and ground wire as described in *Regulator/Rectifier Wiring Harness Test* in Chapter Nine. Note the following:
 - a. If the test readings are correct, perform Step 7.
 - b. If the test readings are incorrect, check for an open circuit in the wiring harness and for dirty or loose fitting terminals; clean and repair as required.
7. Test the charging coil wires at the regulator/rectifier connector as described in *Regulator/Rectifier Wiring Harness Test* in Chapter Nine. Note the following:
 - a. If the test readings are incorrect, replace the alternator and retest.
 - b. If the test readings are correct, replace the regulator/rectifier unit and retest.

Battery Overcharging

If the battery is overcharging, the regulator/rectifier unit is faulty. Replace the regulator/rectifier unit as described in Chapter Nine.

IGNITION SYSTEM

All models are equipped with a capacitor discharge ignition (CDI) system. This solid-state system uses no contact breaker point or other moving parts.

Because of the solid-state design, problems with the capacitor discharge system are rare. If a problem occurs, it generally causes a weak spark or no spark at all. An ignition system with a weak spark or no spark is relatively easy to troubleshoot. It is difficult, however, to troubleshoot an ignition system that only malfunctions when the engine is hot or under load.

Peak Voltage Testing

Honda recommends peak voltage testing (see Chapter Nine) using the Honda peak voltage adapter (part No. 07HGJ-0020100) and a digital multimeter with an impedance of 10M ohms/DVC minimum to troubleshoot the ignition system. Resistance specifications are not available. The following troubleshooting section isolates the different ignition system components and wiring using conventional equipment. If further testing is required and the special tools are not available, refer testing to a Honda dealership.

Troubleshooting

NOTE

If the problem is intermittent, perform the tests with the engine cold, then hot. Then compare the test results.

1. Perform the following ignition spark gap test as follows:

NOTE

*If an adjustable spark tester is not available, perform the spark test as described in **Spark Test** in this chapter.*

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